

REMARKS

Claims 1-26 remain pending in the current Application. Claims 9 and 16 have been amended to address the Examiner's claim objections and not for prior art reasons. Applicants submits that the amendments do not add new matter to the current Application. All the amendments herein have been made in order to clarify the claims and not for prior art reasons. Applicants also submits that (1) no amendment made was related to the statutory requirements of patentability unless expressly stated herein, and (2) no amendment made was for the purpose of narrowing the scope of any claim, unless Applicants have argued herein that such amendment was made to distinguish over a particular reference or combination of references.

Claim Objections

The Examiner has objected to claims 9 and 16 because of the use of the phrase "in part". The Examiner states that this phrase is indeterminable. Applicants respectfully disagree and submit that the claims, as originally filed, are patentable. However, in order to further prosecution and not for prior art reasons, Applicants have amended claim 9 such that the phrase "determines, in part," now reads "at least partially determines". Similarly, Applicants have amended claim 16 such that the phrase "determine, in part," now reads "at least partially determine." Applicants submit that the Examiner's objections have been adequately addressed.

Rejection of claims 1-18 and 21-25 under 35 U.S.C. 102(e)

Applicants respectfully submit that claims 1-18 and 21-25 are patentable over US Patent No. 6,378,112 (hereinafter referred to as Martin) because Martin does not teach each and every element of the claims. While Martin and the current Application both address a tool for verifying two designs, the current Application recognizes and addresses problems introduced by the verification method that are not discussed or addressed in Martin. For example, the existence of false failures caused through the use of symbolic simulation (as described in the current Application) is not addressed in Martin. The current Application discusses, for example, the use of failure conditions (characterizations of a failure) and the use of additional nodes to help

identify and address false failures. The additional nodes, for example, may result from the fact that an actual circuit design may include a dependency that was not apparent in the reference design. Therefore, in one embodiment of the current invention, the inputs of the two designs being verified need not match exactly. None of these issues are addressed in Martin, and since the claims of the current Application include elements which address different aspects of these previously unaddressed issues, they are not anticipated by Martin. Furthermore, under 35 U.S.C. 103(c), Martin cannot be used in a 103(a) (i.e. obviousness) rejection against the current claims because the Application and Martin are commonly assigned to Motorola, Inc.

For example, with respect to claims 1 and 13 and the 102(e) rejection over Martin, Applicants submit that Martin does not teach each and every element of claims 1 and 13. Claim 1 claims a tester which provides a failure indicator and a characterization of a failure in response to the detecting, the tester further comprising a failure analyzer for applying one or more constraints to the characterization of the failure, the one or more constraints representing restrictions on permissible test parameters of the second design representation, and determining whether the one or more constraints will prevent the failure from occurring. Claim 13 claims applying one or more constraints to the characterization of the failure, the one or more constraints representing restrictions on permissible test parameters of the second design representation, and analyzing the failure by determining whether the one or more constraints will prevent the failure from occurring. Martin does not teach these elements. The cited section of Martin (col. 6, lines 1-11) simply discuss the ability to test and debug a design block more quickly, but this does not teach the elements of claim 1 or claim 13 cited above, such as the use of failure indicators and characterizations of a failure or the use of constraints as claimed in claims 1 and 13. Therefore, for at least these reasons, Applicants submit that claims 1 and 13 are clearly not anticipated by Martin.

With respect to claims 21 and 24 and the 102(e) rejection over Martin, Applicants submit that Martin does not teach each and every element of claims 21 and 24. For example, claim 24 claims a symbolic stimulus generator that analyzes the representation of the first design to determine a set of inputs to a test point and generates a set of symbolic stimulus to be applied to corresponding test point inputs in the representation of the second design, the tester accepting as an additional input one or more additional nodes in the first design, finding additional inputs corresponding to the additional nodes, generating a second set of symbolic stimulus from the

additional inputs, applying the second set of symbolic stimulus to corresponding inputs in the representation of the second design, and generating an output response for use in verifying functional similarity. Claim 24 claims analyzing with a symbolic stimulus generator the representation of the first design to determine a set of inputs to a test point, generating a set of symbolic stimulus to be applied to corresponding test point inputs in the representation of the second design, accepting as an additional input one or more additional nodes in the first design, finding additional inputs in the first design corresponding to the additional nodes, generating a second set of symbolic stimulus from the addition inputs, and applying the second set of symbolic stimulus to corresponding inputs in the representation of the second design and generating an output response for use in verifying functional similarity. FIG. 2 and the cited sections of Martin (col. 2, line 63 to col. 3, line 67) clearly do not teach these elements. As stated above, Martin describes a symbolic assertion generator and a symbolic simulator which do not take into consideration the use of additional nodes as claimed in claims 21 and 24 which may, for example, be used to address the issue of false failures. For example, note that the inputs to symbolic assertion generation 208 of FIG. 2 in Martin include only design inputs while the inputs to symbolic assertion generation 108 of the current Application includes design inputs as well as additional reference design nodes. Therefore, for at least these reasons, Applicants submit that claims 21 and 24 are clearly not anticipated by Martin.

Claims 2-12, 14-18, 22-23, and 25 have not been independently addressed because they depend directly or indirectly from allowable claims 1, 13, 21, and 24, respectively, and are therefore allowable for at least those reasons stated above with respect to these claims.

Rejection of claims 19-20 and 26 under 35 U.S.C. 102(e)

Applicant respectfully submits that claims 19-20 and 26 are patentable over US Patent No. 5,754,454 (hereinafter referred to as Pixley) because Pixley does not teach or suggest each and every element of claims 19-20 and 26.

For example, with respect to claim 19, the Examiner states that the element "applying one or more constraints to the characterization of the failure" is taught by col. 5, lines 38-65. However, Applicants respectfully disagree. This section of Pixley teaches the screening out of invalid cutpoint pairs. Therefore is no teaching or suggestion of providing a failure indicator and

a characterization of the failure, applying one or more constraints to the characterization of the failure where the one or more constraints represent restrictions on permissible test parameters of the second design representation, and determining whether the one or more constraints will prevent the failure from occurring, as claimed. Furthermore, the removal of invalid cutpoint pairs is not relevant to these elements of claim 19. For example, the removal of invalid cutpoints using the ATPG techniques of Pixley may be done in addition to the claimed elements of claim 19 cited above or may not be done at all. Therefore, for at least these reasons, Applicants submit that claim 19 is not taught or suggested by Pixley. Claim 20, which depends from claim 19, is therefore also allowable for at least those reasons stated above with respect to claim 19.

With respect to claim 26, the Examiner states that the limitation of a symbolic stimulus generator as claimed in claim 26 is disclosed in col. 2, lines 35-57 by Pixley. Applicants respectfully disagree. This cited section of Pixley discusses binary decision diagrams (BDD), but makes no teaching or suggestion of a verification process which includes analyzing with a symbolic stimulus generator the representation of the first design to determine a set of inputs to a test point, generating a set of symbolic stimulus to be applied to corresponding test point inputs in the representation of the second design, accepting as an additional input one or more additional nodes in the first design, finding additional inputs in the first design corresponding to the additional nodes, generating a second set of symbolic stimulus from the additional inputs, and applying the second set of symbolic stimulus to corresponding inputs in the representation of the second design and generating an output response for use in verifying functional similarity, as claimed in claim 26. Therefore, for at least these reasons, Applicants submit that claim 26 is not taught or suggested by Pixley.

Conclusion

Although Applicants may disagree with statements made by the Examiner in reference to the claims and the cited references, Applicants are not discussing all these statements in the current Office Action, yet reserve the right to address them at a later time if necessary.

Applicant respectfully solicits allowance of the pending claims. Contact me if there are any issues regarding this communication or the current Application.

If Applicant has overlooked any additional fees, or if any overpayment has been made, the Commissioner is hereby authorized to credit or debit Deposit Account 502117.

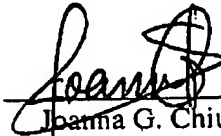
Respectfully submitted.

SEND CORRESPONDENCE TO:

Motorola, Inc.
Law Department

Customer Number: 23125

By: _____



Joanna G. Chiu
Attorney of Record
Reg. No.: 43,629
Telephone: (512) 996-6839
Fax No.: (512) 996-6854